


Exhibit 15

U.S. Patent No. 9,143,976 (“’976 Patent”)

Accused Devices: Samsung Galaxy phones and tablets, and all versions and variations thereof since the issuance of the asserted patent.

Claim 1

Issued Claim(s)	Public Documentation
1. A wireless end-user device, comprising:	<p>Samsung Galaxy phones and tablets are each “a wireless end-user device.” For example, the Galaxy S22 is a “wireless end-user device.”</p> 
a wireless wide area network (WWAN) modem to communicate data for Internet service activities between the device and at least one WWAN, when configured for and connected to the WWAN;	<p>Samsung Galaxy phones and tablets comprise “a wireless wide area network (WWAN) modem to communicate data for Internet service activities between the device and at least one WWAN, when configured for and connected to the WWAN.” For example, the Galaxy S22 includes a wireless modem for communicating with mobile service base stations.</p>

Network & Connectivity

5G

5G Non-Standalone (NSA), Standalone (SA), Sub6 / mmWave

LTE

Enhanced 4x4 MIMO, Up to 7CA, LTE Cat.20
Up to 2.0Gbps Download / Up to 200Mbps Upload

Wi-Fi

Wi-Fi 802.11 a/b/g/n/ac/ax 2.4G+5GHz+6GHz, HE160, MIMO, 1024-QAM
Up to 2.4Gbps Download / Up to 2.4Gbps Upload

Bluetooth

Bluetooth® v 5.2, USB type-C, NFC, Location(GPS, Galileo, Glonass, BeiDou)

Ultra Wide Band

*Requires optimal connection. Actual speed may vary depending on country, carrier and user environment.
*The bandwidths supported by the device may vary depending on the region or service provider.
*Download and upload speeds reaching up to 2.4Gbps only available with Wi-Fi 6E. Wi-Fi 6E only supported on Galaxy S22 Ultra and S22+.
Galaxy S22 has Wi-Fi 6.
*Galileo and BeiDou coverage may be limited. BeiDou may not be available for certain countries.

<https://www.samsung.com/us/smartphones/galaxy-s22/models/>

a wireless local area network (WLAN) modem to communicate data for Internet service activities between the device and at least one WLAN, when configured for and connected to the WLAN;

Samsung Galaxy phones and tablets comprise “a wireless local area network (WLAN) modem to communicate data for Internet service activities between the device and at least one WLAN, when configured for and connected to the WLAN.” For example, the Galaxy S22 includes a wi-fi modem for communicating over a wi-fi network.

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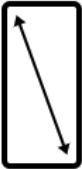
Ultra Wide Band

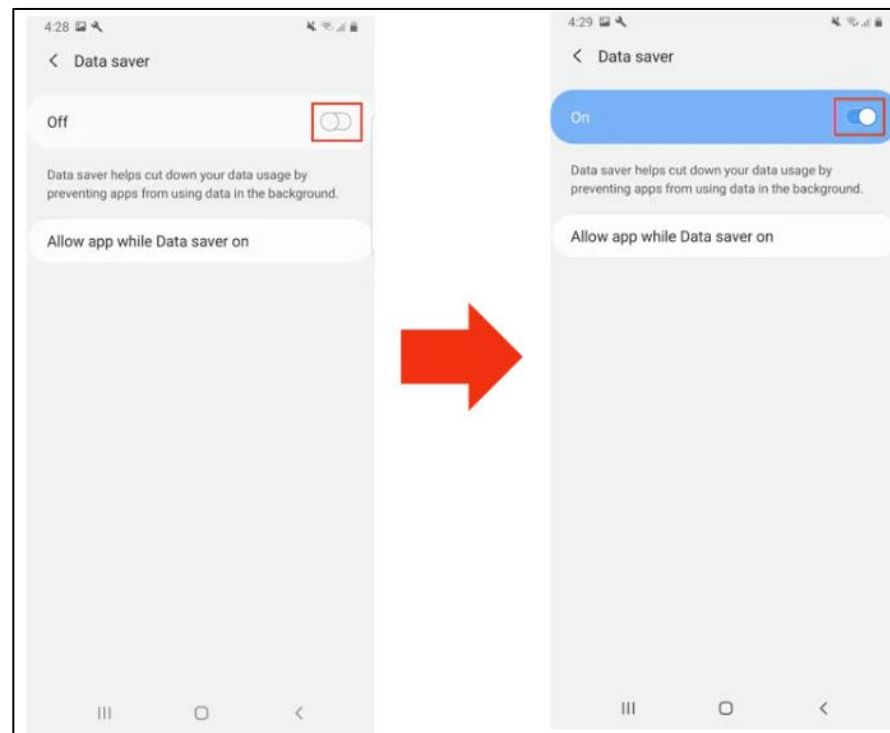
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Galaxy S22 has Wi-Fi 6.
*Galileo and BeiDou coverage may be limited. BeiDou may not be available for certain countries.

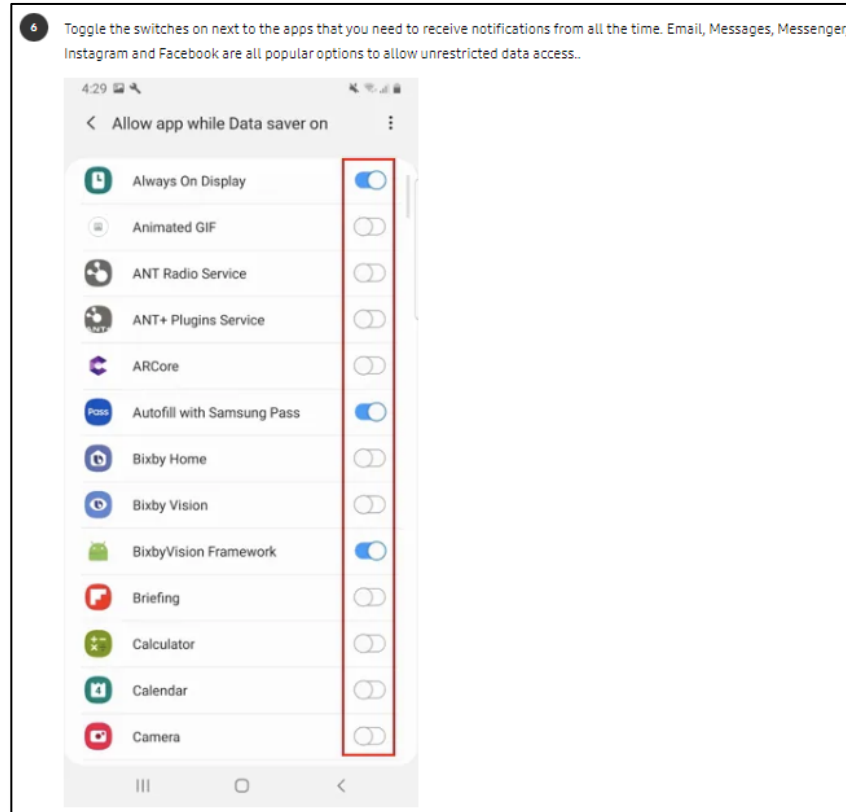
<https://www.samsung.com/us/smartphones/galaxy-s22/models/>

a device display;

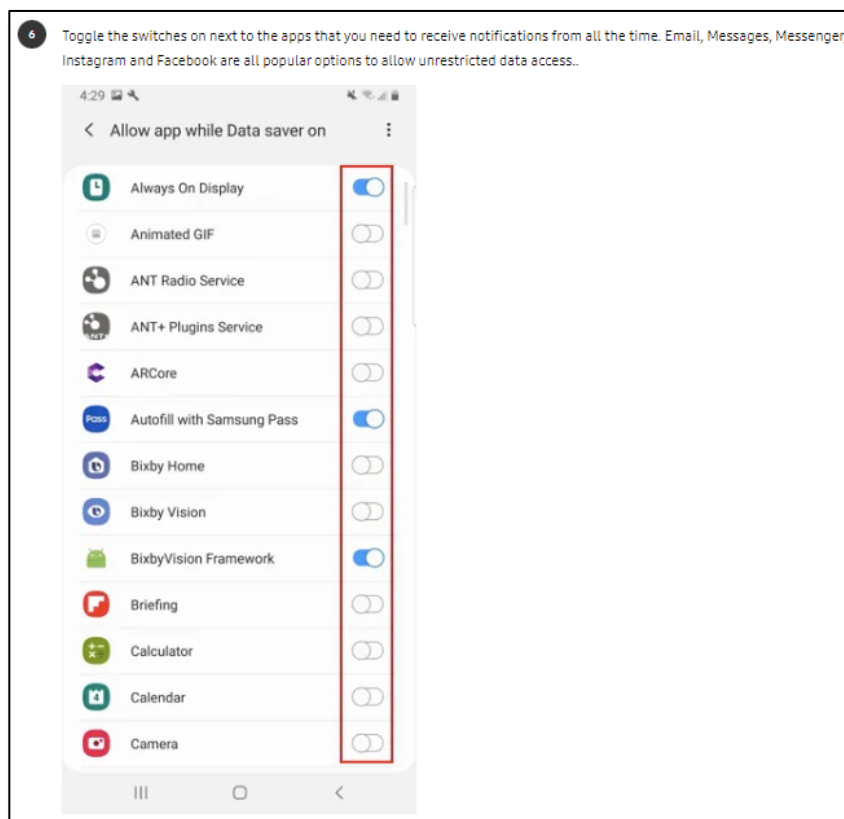
Samsung Galaxy phones and tablets comprise “a device display.” For example, the Galaxy S22 includes a 6.1” OLED display:

	<p>Galaxy S22</p> <hr/>  <p>6.1"¹</p> <p>Flat FHD+</p> <p>Dimensions:</p> <p>70.6 x 146 x 7.6mm</p> <p>https://www.samsung.com/us/smartphones/galaxy-s22/models/</p>
one or more processors configured to classify, for a first end-user application capable of interacting in the device display foreground with a user and capable of at least some Internet service activity when not interacting in the device display foreground with the user, whether or not the first end-user application, when running, is interacting in the device display foreground with the user,	Samsung Galaxy phones and tablets comprise “one or more processors configured to classify, for a first end-user application capable of interacting in the device display foreground with a user and capable of at least some Internet service activity when not interacting in the device display foreground with the user, whether or not the first end-user application, when running, is interacting in the device display foreground with the user,” as shown by the below exemplary citations.





<https://www.samsung.com/ae/support/mobile-devices/android-pie-what-is-the-data-saver-feature/>

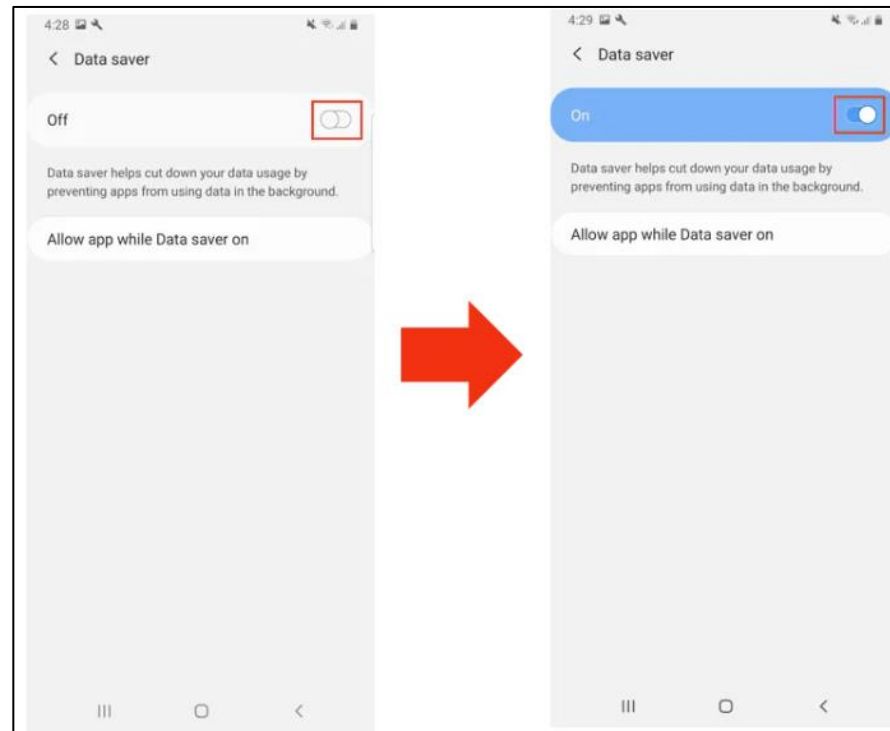


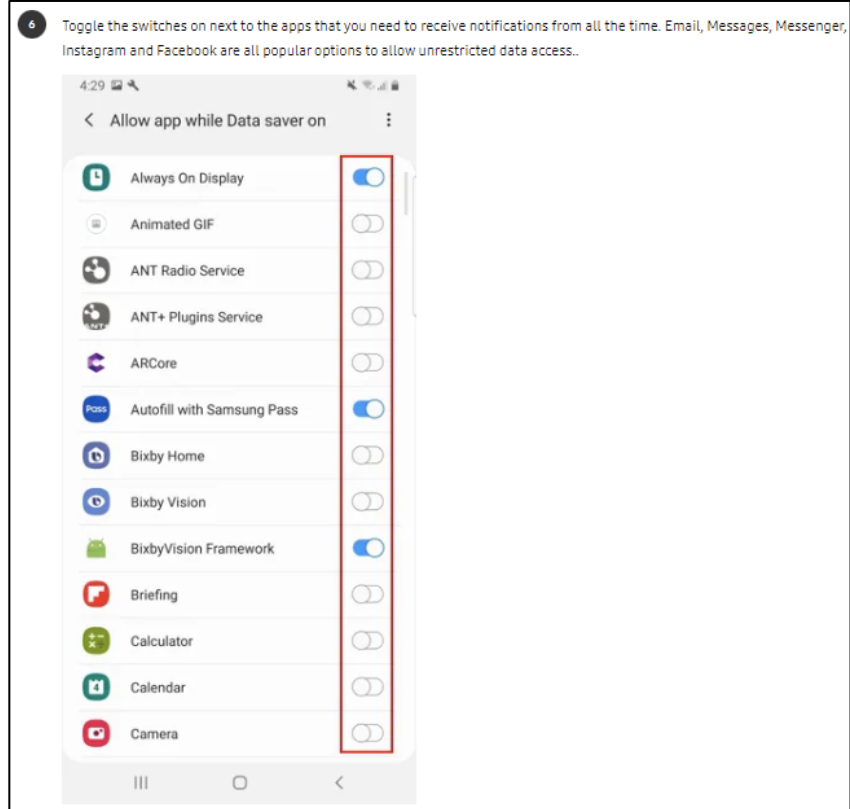
<https://www.samsung.com/ae/support/mobile-devices/android-pie-what-is-the-data-saver-feature/>

for a time period when data for Internet service activities is communicated through a WWAN modem connection to the at least one WWAN, apply a first differential traffic control policy to Internet service activity on behalf of the first end-user application, such that Internet service activity on behalf of the first end-user application is disallowed

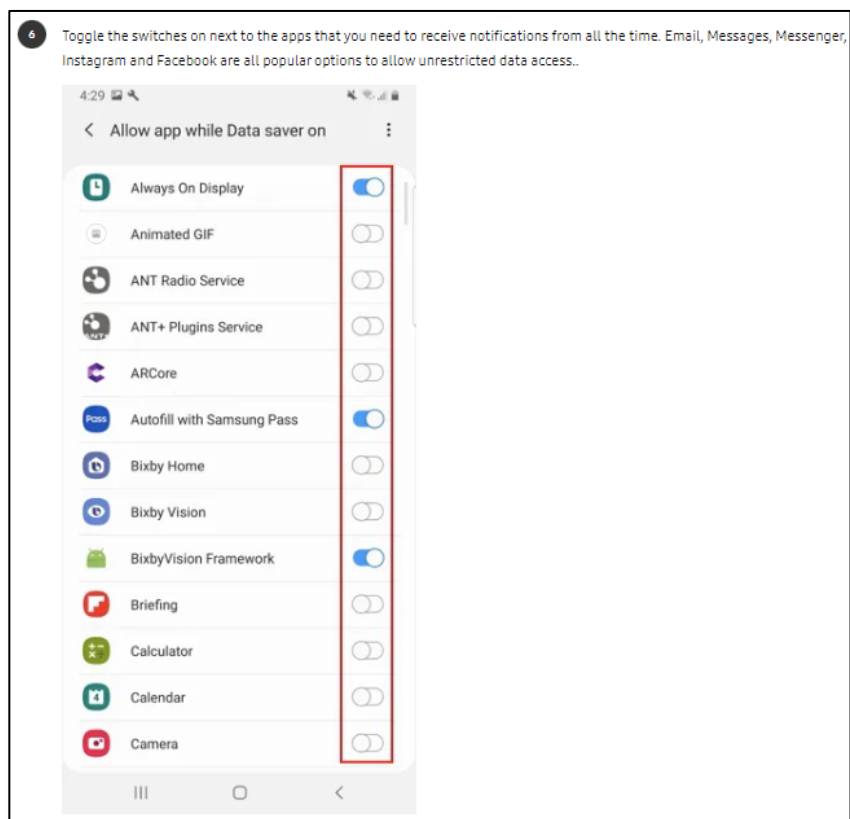
Samsung Galaxy phones and tablets comprise processors configured to, “for a time period when data for Internet service activities is communicated through a WWAN modem connection to the at least one WWAN, apply a first differential traffic control policy to Internet service activity on behalf of the first end-user application, such that Internet service activity on behalf of the first end-user application is disallowed when the one or more processors classify the first end-user application as not interacting in the device display foreground with the user.”

when the one or more processors classify the first end-user application as not interacting in the device display foreground with the user, and






<https://www.samsung.com/ae/support/mobile-devices/android-pie-what-is-the-data-saver-feature/>



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indicate to the first end-user application, via an application program interface (API), one or more network access conditions based on the applied first differential traffic control policy, including

Samsung Galaxy phones and tablets comprise processors configured to, “indicate to the first end-user application, via an application program interface (API), one or more network access conditions based on the applied first differential traffic control policy.” For example, applications running on the Galaxy S22 use ConnectivityManager API, which indicates to a first end-user application a network access condition based on an applied differential traffic control policy.

	<div data-bbox="690 164 1703 591"> <h2>Optimize network data usage </h2> <p>Over the life of a smartphone, the cost of a cellular data plan can easily exceed the cost of the device itself. On Android 7.0 (API level 24) and higher, users can enable Data Saver on a device-wide basis in order to optimize their device's data usage, and use less data. This ability is especially useful when roaming, near the end of the billing cycle, or for a small prepaid data pack.</p> <p>When a user enables Data Saver in Settings and the device is on a metered network, the system blocks background data usage and signals apps to use less data in the foreground wherever possible. Users can allow specific apps to use background metered data usage even when Data Saver is turned on.</p> <p>Android 7.0 (API level 24) extends the <code>ConnectivityManager</code> API to provide apps with a way to retrieve the user's Data Saver preferences and monitor preference changes. It is considered good practice for apps to check whether the user has enabled Data Saver and make an effort to limit foreground and background data usage.</p> </div> <div data-bbox="690 613 1667 1167"> <h2>Check data saver preferences</h2> <p>On Android 7.0 (API level 24) and higher, apps can use the <code>ConnectivityManager</code> API to determine what data usage restrictions are being applied. The <code>getRestrictBackgroundStatus()</code> method returns one of the following values:</p> <div data-bbox="701 748 1045 768"> <p><code>RESTRICT_BACKGROUND_STATUS_DISABLED</code></p> <p>Data Saver is disabled.</p> </div> <div data-bbox="701 839 1033 857"> <p><code>RESTRICT_BACKGROUND_STATUS_ENABLED</code></p> <p>The user has enabled Data Saver for this app. Apps should make an effort to limit data usage in the foreground and gracefully handle restrictions to background data usage.</p> </div> <div data-bbox="701 954 1071 972"> <p><code>RESTRICT_BACKGROUND_STATUS_WHITELISTED</code></p> <p>The user has enabled Data Saver but the app is allowed to bypass it. Apps should still make an effort to limit foreground and background data usage.</p> </div> <p>Limit data usage whenever the device is connected to a metered network, even if Data Saver is disabled or the app is allowed to bypass it. The following sample code uses <code>ConnectivityManager.isActiveNetworkMetered()</code> and <code>ConnectivityManager.getRestrictBackgroundStatus()</code> to determine how much data the app should use:</p> </div> <p>https://developer.android.com/training/basics/network-ops/data-saver</p>
<p>a first network access condition that indicates the unavailability to the first end-user application, when the first end-user application is classified as not</p>	<p>In the Galaxy phones and tablets, the <code>ConnectivityManager.NetworkCallback</code> API indicates to an application the network is unavailable when the application in the background, via the <code>onBlockedStatusChanged()</code> method, such as when an application is subject to data saver</p>

interacting in the device display foreground with the user, of Internet data service that is available via the WWAN modem, and

restrictions set in the user interface. The method `getRestrictBackgroundStatus()` also returns the applications background restriction status.

Public methods	
void	<code>onAvailable(Network network)</code> Called when the framework connects and has declared a new network ready for use.
void	<code>onBlockedStatusChanged(Network network, boolean blocked)</code> Called when access to the specified network is blocked or unblocked.
void	<code>onCapabilitiesChanged(Network network, NetworkCapabilities networkCapabilities)</code> Called when the network corresponding to this request changes capabilities but still satisfies the requested criteria.

<https://developer.android.com/reference/android/net/ConnectivityManager.NetworkCallback>

On Android 7.0 (API level 24) and higher, apps can use the `ConnectivityManager` API to determine what data usage restrictions are being applied. The `getRestrictBackgroundStatus()` method returns one of the following values:

`RESTRICT_BACKGROUND_STATUS_DISABLED`

Data Saver is disabled.

`RESTRICT_BACKGROUND_STATUS_ENABLED`

The user has enabled Data Saver for this app. Apps should make an effort to limit data usage in the foreground and gracefully handle restrictions to background data usage.

`RESTRICT_BACKGROUND_STATUS_WHITELISTED`

The user has enabled Data Saver but the app is allowed to bypass it. Apps should still make an effort to limit foreground and background data usage.

Limit data usage whenever the device is connected to a metered network, even if Data Saver is disabled or the app is allowed to bypass it. The following sample code uses `ConnectivityManager.isActiveNetworkMetered()` and `ConnectivityManager.getRestrictBackgroundStatus()` to determine how much data the app should use:

<https://developer.android.com/training/basics/network-ops/data-saver>

<p>a second network access condition that indicates the availability to the first end-user application, when the first end-user application is classified as interacting in the device display foreground with the user, of Internet data service that is available via the WWAN modem.</p>	<p>In the Galaxy phones and tablets, the <code>ConnectivityManager.NetworkCallback</code> API indicates to an application the network is available when the application is in the foreground, such as when an application is whitelisted from data saver restrictions or data saver mode is disabled</p> <div data-bbox="682 381 1759 946"><p>On Android 7.0 (API level 24) and higher, apps can use the <code>ConnectivityManager</code> API to determine what data usage restrictions are being applied. The <code>getRestrictBackgroundStatus()</code> method returns one of the following values:</p><p><code>RESTRICT_BACKGROUND_STATUS_DISABLED</code></p><p>Data Saver is disabled.</p><p><code>RESTRICT_BACKGROUND_STATUS_ENABLED</code></p><p>The user has enabled Data Saver for this app. Apps should make an effort to limit data usage in the foreground and gracefully handle restrictions to background data usage.</p><p><code>RESTRICT_BACKGROUND_STATUS_WHITELISTED</code></p><p>The user has enabled Data Saver but the app is allowed to bypass it. Apps should still make an effort to limit foreground and background data usage.</p><p>Limit data usage whenever the device is connected to a metered network, even if Data Saver is disabled or the app is allowed to bypass it. The following sample code uses <code>ConnectivityManager.isActiveNetworkMetered()</code> and <code>ConnectivityManager.getRestrictBackgroundStatus()</code> to determine how much data the app should use:</p></div> <p>https://developer.android.com/training/basics/network-ops/data-saver</p>